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STRUCTURE OF WORLD INDUSTRIALIZATION FROM THE LONG-TERM PERSPECTIVE

Industrial development, retrospect and prospect: trends, choices and opportunities

A study proposed by the Director-General

Summary

In accordance with United Nations General Assembly resolution 46/146, submits to the Board for consideration a proposal for a study on the structure of world industrialization from the long-term perspective as a contribution to the overall assessment of and needs for industrial development in developing countries.

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Introduction

1. In its consideration of industrial development cooperation and the diversification and modernization of productive activities in developing countries, the United Nations General Assembly at its forty-sixth session adopted resolution 46/146, which, inter alia, noted with interest the proposal of the Director-General of UNIDO for a study on the structure of world industrialization from the long-term perspective as a contribution to the overall assessment of and needs for industrial development in developing countries. The General Assembly recommended that the Board should consider the proposal at its next session and report thereon to the Assembly at its forty-seventh session. The present document is intended to facilitate the work of the Board in complying with the recommendation of the General Assembly.

I. BACKGROUND

2. The background to the proposal of the Director-General for the study can be found in the UNIDO response to General Assembly resolution 45/196 on industrial development cooperation and the diversification and modernization of productive activities in developing countries, in document IDB.8/32, which was presented to the Industrial Development Board at its eighth session. That resolution, with its focus primarily on industrial development, was adopted in the same year (1990) that the General Assembly considered international economic cooperation (resolution S-18/3) at its eighteenth special session, and proclaimed the International Development Strategy for the Fourth United Nations Development Decade (resolution 45/199). In recent years the issue of industrial development had received less emphasis in the resolutions on international economic cooperation and on the Fourth International Development Decade than in earlier General Assembly resolutions. In contrast, resolution 45/196 re-emphasized industrial development, recognized the many and growing challenges and obstacles to industrial development faced by developing countries, and called, inter alia, for UNIDO, in cooperation with sister agencies, to make recommendations to the General Assembly, with a view to strengthening effectively industrial development cooperation and the diversification and modernization of productive activities in developing countries.

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3. In response to General Assembly resolution 45/196, 15 recommendations were made by UNIDO, as contained in document IDB.8/32. The first recommendation (IDB.8/32, para. 12) invited the General Assembly to consider the preparation by UNIDO of a study of long-term world industrial structure, which might address the interrelated questions of employment generation; changing terms of trade; environmentally sustainable industrial development; changes in the direction, structure and modalities of international trade and resource flows; new perceptions of the role of government; and modalities and priorities in human resource development. Those were among the major issues which had been identified in General Assembly resolution 45/196. The Board did not have the time to discuss the agenda item in depth, but authorized the Secretariat to transmit to the United Nations Secretariat for submission to the General Assembly at its forty-sixth session, through the Economic and Social Council, document IDB.8/32, together with the views expressed by Member States on the subject during the eighth session of the Board (1-5 July 1991), in compliance with General Assembly resolution 45/196.

4. In line with the request that the UNIDO recommendations be prepared in close cooperation with the appropriate organs and organizations of the United Nations system, including the regional commissions (resolution 45/196, para. 11), a draft version of document IDB.8/32 was transmitted to the Administrative Committee on Coordination (ACC) at its first regular session of 1991. Due to the rather limited time available for the preparation of the document and, thus its late submission, ACC did not review the draft report. Therefore, before finalizing the document, UNIDO invited the concerned sister organizations to submit their comments and suggestions in writing to the UNIDO Secretariat. Subsequently document IDB.8/32 was submitted to the Economic and Social Council at its second regular session in July 1991. The views expressed by Member States and written comments by several United Nations agencies were taken into account in the version of document IDB.8/32 which was presented to the General Assembly at its forty-sixth session (A/46/455). That document was discussed by the Second Committee of the General Assembly under the agenda item on industrial development cooperation and the diversification and modernization of productive activities in developing countries, following an introduction by the UNIDO representative. A note on the proposed study on long-term world industrial structure was circulated to the Second Committee and is contained in the annex to the present document.

5. In their statements to the Second Committee, delegations, in providing guidance to the UNIDO Secretariat, emphasized a number of crucial industrialization and development issues that should form part of the projected study, including special problems of industrial development in the least developed countries, the importance of the role of the private sector, the development and transfer of technology, the transfer or conversion of military industries, ecologically sustainable development, cooperation with international financial institutions, and institutional requirements for industrial development.

6. In his statement to the Second Committee, the Director-General of UNIDO pointed out that if those and other subjects were to be addressed in a comprehensive stocktaking exercise within the context of the study, the international community and policy makers throughout the world would be in a position to determine where industry in developing countries actually stood. This stocktaking could be used to determine what should be done on the many fronts of industrial development in those countries and by the international community. He emphasized that industrialization meant more than high growth rates in manufacturing. An effective in-depth study would have to focus on the reasons for industrial success and failure. The study would focus on the backward, forward, and horizontal linkages within the industrial sector, as well as between the industrial and other economic sectors. It would also focus on the environment and areas such as agriculture; it would address the issues of infrastructure and various services such as management, marketing, education, training and finance. Stress was placed on the view that the issues of industrialization were all-encompassing, interdisciplinary and closely interrelated, and it was essential that any consideration of those issues focus sharply on their interaction. The proposed research project would extend beyond the confines of the more narrowly focused annual Global Report of UNIDO. In particular, it would entail an interdisciplinary approach to the investigation of the world's industrial structure, drawing upon the social, cultural, political, environmental and institutional dimensions of the future industrial transformation of the world, as well as on its economic and industrial dimensions.

7. The Director-General also indicated to the Second Committee that the initial cost estimate of the proposed study was about $2.2 million, and he requested that the Second Committee as well as the Fifth Committee address that issue.

II. SCOPE OF THE PROPOSED STUDY

8. The aim of the study is to provide a comprehensive and detailed review of the changing structure of industry world wide. The study is to identify trends which may lead to new structures and opportunities for the early twenty-first century in the industrial sector and to suggest ways and means by which Governments, individually and collectively, may influence and improve upon those futures. The emphasis would be on providing a sound basis for policy choice between countries involving the analysis of macroeconomic aggregates, as well as policy choice within national economies involving a consideration not only of macroeconomic issues - such as income, investment and fiscal policy - but also of micro-economic aspects, in particular the functioning of firms and institutions and their role in promoting industrial development. Thus, in addition to macro-level aggregate analysis, the proposed study envisions analysis through in-depth case studies and, where necessary, field surveys focused on the main actors and institutions in the

development process, in an extensive sample of countries in 10 regions and subregions of the world. The proposed study would concentrate on the main elements of the production system in various countries: the institutions, the production enterprises, the plant and the equipment, as well as the people in the production system that work together to plan, conceive, adapt and design, develop, produce, market and deliver industrial goods and services. It appears important to draw on the perceptions of major actors in the industrial development process such as managers, engineers, workers, financiers, development bankers, academics and researchers, directors of trade and industry associations and government policy makers. Macroeconomic trends and policies alone do not account for the relative success and failure of industry in the developing countries - or indeed among the developed countries. The reasons for industrial success also stems from what is happening on the factory floor, on the board of directors, in the service institutions, in the relevant government ministries, as well as in classrooms and training facilities. In examining productive performance, special attention will be given to human resource development and technology.

9. Section II of the annex to the present document provides a preliminary list of some of the topics to be addressed in the proposed study. The list is likely to be enlarged on the basis of the views expressed and guidance provided by Member States during the debate in the Second Committee at the forty-sixth session of the General Assembly and at the ninth session of the Industrial Development Board. At the same time, the number of issues addressed may have to be limited to keep the study within manageable proportions, and to maintain a degree of coherence with emphasis placed on providing a sound basis for policy choice within national economies, as well as policy choice by the international community. Each of the issues identified in the list can be reformulated. Thus, a consideration of the role of government in industrial development might include: changing perceptions of the role of government; decentralized economic management, privatization and macroeconomic stability; government and non-governmental institutions and their relationship to industrial development; institutional infrastructure and its software linkages to industrial firms; and indices of "government success/failure phenomena" and "market success/failure phenomena" illustrated by case studies.

10. In preparing this extensive and comprehensive study UNIDO would make full use of the experience gained by its Global Report team and of its extensive network of collaborating research institutions and specialist trade publication journalists to provide valuable inputs and insights. Other resources available to UNIDO include an extensive range of statistical databases, most of which are internally generated, with the remainder made available by international organizations such as the United Nations Statistical Office, the International Monetary Fund and the World Bank. Use can also be made of the United Nations Industry Trade and Development (UNITAD) econometric world model, and some 220 national input-output tables.

III. SCHEDULE FOR THE PROPOSED STUDY

11. First phase (one month): All quantitative models developed by UNIDO would be re-evaluated for their applicability to the proposed project and updated along with their databases, and redesigned if necessary to implement quantitative exercises directly useful to the project. This would be accompanied by a comprehensive review and stocktaking of past industrial performance and of current trends for different groups of countries at different stages of development, and an in-depth assessment of major socio-politico-economic events and their implications for the industrialization prospects of developing countries. It would be necessary to initiate contacts with sister agencies, and with relevant international, national, and private organizations and individuals who might contribute to the study. The Secretariat would draw upon in-house and external expertise in the areas of economics, technology, organization, management and political science. The conceptual framework for the proposed study would be developed further in the light of the impact of recent events. Existing case study material would be identified and assessed and arrangements would be made for the collection and analysis of micro-level data leading to the preparation of new case studies.

12. Second phase (18 months): In-depth field surveys and case studies would begin, focused on the main actors and institutions in the industrial development process, in a sample of industrial subsectors and sectors. The objective of case studies would be to investigate the existing production system in industry and their major economic and other constraints. Consultants having good working relationships with subregional and regional research groups and institutions in collaboration with UNIDO would provide survey teams to collect and carry out processing and preliminary analysis of raw data. Undoubtedly, this field work would be resource intensive but would be essential. During the various phases of the study, particularly when preliminary results begin to emerge, a series of working group meetings would be held with collaborators who would have participated in the study, as well as with collaborators who have contributed to significant UNIDO reports produced since 1985. Participants at the meetings would be of several professional profiles: (a) research collaborators to discuss survey concept design, methodology, and preliminary results; (b) industry specialists drawn from professional journals and major enterprises; and (c) policy makers in their individual capacity drawn from Governments and international agencies.

13. Third phase (six months): Preparation of various subsectoral, sectoral and country reports and of technical case studies; testing of studies would be carried out at working group meetings. During this phase, the major findings and policy options would be discussed with participating research organizations and individuals.

14. Fourth phase (six months): The final report of the study would be prepared and presented to the Industrial Development Board, the Economic and Social Council and the General Assembly. Subsequently, selected portions of the study, for example at the country or subsector level, could

be discussed with corporate executives and government decision makers in production enterprises and countries that would have participated in the preparation of the study. A series of workshops and seminars could be envisaged in that regard. However, those possible research-based technical cooperation activities have not been costed or scheduled in the present report.

IV. COST ESTIMATES AND POSSIBLE SOURCES OF FUNDING

15. An initial cost estimate of this four-phased study extending over thirty months indicates that the project can be carried out using the existing staff resources and databases of the UNIDO Global Report, supplemented by an additional budget of approximately $2.2 million, as indicated in section IV of the annex to the present document. The study would require extrabudgetary funding since budgetary constraints have not permitted its inclusion in the regular budget for 1992-1993. The question of financing would require the consideration of the Industrial Development Board, as well as of the Second and Fifth Committees of the General Assembly. Possible sources of funding are indicated in section IV of the annex.

V. ACTION REQUIRED OF THE BOARD

16. The Industrial Development Board is invited to consider the present report on the proposed study, to provide guidance on future action, including the funding of the study, and to transmit its conclusions to the General Assembly at its forty-seventh session as recommended by the General Assembly in resolution 46/146.

Annex

NOTE CIRCULATED TO THE UNITED NATIONS GENERAL ASSEMBLY*

Industrial retrospect and prospect beyond 2000: trends, choices and opportunities for world industrial development

I. INTRODUCTION

Sixteen years after the optimism of the Lima Declaration and Plan of Action for the industrial development of the third world by the year 2000, the promise of industrialization remains unfulfilled. Many developing countries and areas can be counted among the winners - Republic of Korea, Taiwan Province, Singapore, Hong Kong and more recently several others including Malaysia, Thailand, Chile, Mauritius, Indonesia and Mexico. But for many others the question arises - what went wrong? And within the South itself, given the success of the winners, the gap continues to widen. What can be done? When the international community considers global industrial development, the first questions are where is industry going, how does it influence individual national economies, how do major Governments see their futures and are these futures consistent? Industrialization goes far beyond manufacturing and questions related to its development. Industrial development goes beyond high growth rates, and encompasses balanced development with other economic sectors, especially agriculture, services and infrastructure. Successful industrialization is not accompanied by over-consumption of energy and other production inputs, by environmental degradation, by poorly developed backward and forward linkages within a country and with other countries, by growing unemployment and an increasing urban - rural gap, by discrimination against small-scale versus large scale and traditional versus modern industry or by a worsening income distribution. Industrialization issues are therefore all-encompassing, inter-disciplinary and closely interrelated, and need to be considered within a broad context with due attention to their interactions. At the same time, technology is a dominant force which by the year 2000 may revolutionize present systems of production, employment, distribution, consumption and investment and may lead to the global factory.

An important task for UNIDO should be to tackle these major issues and to present a global vision and a consistent perspective for future development in the field of industry to the international community.

Specifically the aim of this study is to provide a comprehensive and detailed review of the current structure of industry world wide, including its interrelationships with other economic sectors and with social, political, financial, technological and environmental issues, identify trends which may lead to new structures, opportunities, problems and issues for the early 21st Century and suggest ways and means by which governments and the international community may influence and improve upon these futures. The emphasis will be on providing a sound basis for policy choice.

II. MAJOR STRUCTURAL CHANGES TO BE ADDRESSED

1. Possible paths of global industrial restructuring under various assumptions of major political, institutional and social changes over the next quarter century

   - Emergence of a tripolar economic and political world by 1995, 2000 and 2005
   - Political transformation in Eastern Europe and the impact on developing countries of trade and capital flows
   - Changing perceptions of the role of government, privatization and decentralized economic management, including indices of "government success/failure phenomena" and "market success/failure phenomena" illustrated by case studies
   - Growing economic divergence within the South and within the North

2. Sectoral structural changes

   - A comprehensive survey through a quantitative and qualitative assessment of the past two decades of world industry by region and by economic group differentiated by stages of development, and particularly the role of technology in the relative performance of each group
   - The nature and evolution of domestic and external inter-industry linkages between manufacturing and other sectors as world industry moves towards a completely integrated global factory system with complex cross-border subcontracting networks (for example, the increase of services versus production in developed countries)
   - The failure of industry to absorb the growing work force, the need for human resource development, small-scale and rural industries development, the urban bias of industry

3. World resource endowments

   - The emergence of a significantly higher level of development in some countries by the year 2000, and the impact of these developing countries on the environment and the world carrying-capacity of natural resources such as energy and minerals

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* The present annex represents a note circulated to the Second Committee on 11 October 1991, with minor editorial modifications.

- Environmental degradation and the need for ecologically sustainable development

- Worsening prospects of the low-income countries

4. Technological progress

- Rapid technological progress and the emergence of new materials, new information systems, and new industrial organization

- Widening technological gap between developed and developing countries as well as among different groups of developing countries and its impact on international competitiveness

- Compatibility between poverty eradication programmes and programmes of industrial upgrading through higher technology applications

5. Structural changes in international resource flows

- Global savings and the changing structure of international financial flows, globalization of international financial and capital markets and their impact

- Increasing importance of intra-industry trade, of services trade and a shift from trade to direct foreign investment; breakdowns of Uruguay round negotiations

- New institutional framework for technology transfer between developed and developing countries; role of technological cooperation among developing countries

III. PROJECT SCHEDULE (approximate)

- First six months - quantitative and qualitative assessment of industrial performance of different groups of countries classified by stages of development.

- Second six months - Development of conceptual frameworks and quantitative models so as to assess the impacts of major events on the structure of world industry in the years 1995, 2000 and 2005.

- Third twelve months - Data collection, information gathering through field missions, analysis and estimation of findings, discussion with collaborating researchers and research institutes.

- Fourth six months - consolidation, drafting, editing of the report and formulation of policy recommendations.

IV. PROJECT FINANCE

The project will be carried out using existing UNIDO resources, including its databases and existing research staff, supplemented by the following additional resources:

	Thousands of US dollars
Consultants and short-term staff (100 work-months)	900
Collaboration with regional and subregional research groups and institutions	700
Travel costs for field investigation, information collection	300
Meetings and working groups	250
Miscellaneous (computer time, documentation purchases, etc.)	50
Total	$2,200

It is envisaged that sources of funding might be the United Nations regular budget, special programme resources of the United Nations Development Programme, voluntary contributions of Member States, or a combination of sources.